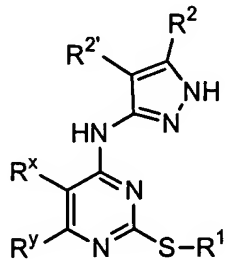
AMENDMENTS TO THE CLAIMS

Please cancel claims 8, 11, 16, 27, and 28 without prejudice to or disclaimer of the subject matter recited therein.

Please amend claims 1, 2, 6, 7, 9, 12, 15, 17, and 19-22 as follows.

1. (Currently amended) A compound of formula **IIIa**:



IIIa

or a pharmaceutically acceptable derivative or prodrug thereof, wherein:

R^x and R^y are independently selected from T-R^3 or L-Z-R^3;

R^1 is T-(Ring D);

Ring D is a 5-7 membered monocyclic ring or 8-10 membered bicyclic ring selected from aryl, heteroaryl, heterocyclyl or carbocyclyl, said heteroaryl or heterocyclyl ring having 1-4 ring heteroatoms selected from nitrogen, oxygen or sulfur, wherein each substitutable ring carbon of Ring D is independently substituted by oxo, T-R^5, or V-Z-R^5, and each substitutable ring nitrogen of Ring D is independently substituted by -R^4;

T is a valence bond or a C_{1-4} alkylidene chain;

Z is a C_{1-4} alkylidene chain;

L is –O-, -S-, -SO-, -SO_2-, -$N(R^6)SO_2$-, -$SO_2N(R^6)$-, -$N(R^6)$-, -CO-, -CO_2-, -$N(R^6)$CO-, -$N(R^6)$C(O)O-, -$N(R^6)$CON(R^6)-, -$N(R^6)SO_2N(R^6)$-, -$N(R^6)N(R^6)$-, -C(O)$N(R^6)$-, -OC(O)$N(R^6)$-, -$C(R^6)_2$O-, -$C(R^6)_2$S-, -$C(R^6)_2$SO-, -$C(R^6)_2SO_2$-, -$C(R^6)_2SO_2N(R^6)$-, -$C(R^6)_2N(R^6)$-, -$C(R^6)_2N(R^6)$C(O)-, -$C(R^6)_2N(R^6)$C(O)O-, -$C(R^6)$=$NN(R^6)$-, -$C(R^6)$=N-O-, -$C(R^6)_2N(R^6)N(R^6)$-, -$C(R^6)_2N(R^6)SO_2N(R^6)$-, or -$C(R^6)_2N(R^6)$CON(R^6)-;

R^2 and $R^{2'}$ are independently selected from -R, -T-W-R^6, or R^2 and $R^{2'}$ are taken together with their intervening atoms to form a fused, 5-8 membered, unsaturated or partially unsaturated, ring having 0-3 ring heteroatoms selected from nitrogen, oxygen, or sulfur, wherein each substitutable ring carbon of said fused ring formed by R^2 and $R^{2'}$ is independently substituted by halo, oxo, -CN, -NO_2, -R^7, or -V-R^6, and each substitutable ring nitrogen of said ring formed by R^2 and $R^{2'}$ is independently substituted by R^4;

R^3 is selected from -R, -halo, -OR, -C(=O)R, -CO_2R, -COCOR, -$COCH_2$COR, -NO_2, -CN, -S(O)R, -$S(O)_2$R, -SR, -$N(R^4)_2$, -$CON(R^7)_2$, -$SO_2N(R^7)_2$, -OC(=O)R, -$N(R^7)$COR, -$N(R^7)CO_2$(C_{1-6} aliphatic), -$N(R^4)N(R^4)_2$, -C=$NN(R^4)_2$, -C=N-OR, -$N(R^7)CON(R^7)_2$, -$N(R^7)SO_2N(R^7)_2$, -$N(R^4)SO_2$R, or -$OC(=O)N(R^7)_2$;

each R is independently selected from hydrogen or an optionally substituted group selected from C_{1-6} aliphatic, C_{6-10} aryl, a heteroaryl ring having 5-10 ring atoms, or a heterocyclyl ring having 5-10 ring atoms;

each R^4 is independently selected from –R^7, -COR^7, -CO_2(optionally substituted C_{1-6} aliphatic), -$CON(R^7)_2$, or -SO_2R^7;

each R^5 is independently selected from -R, halo, -OR, -C(=O)R, -CO_2R, -COCOR, -NO_2, -CN, -S(O)R, -SO_2R, -SR, -$N(R^4)_2$, -$CON(R^4)_2$, -$SO_2N(R^4)_2$, -OC(=O)R, -$N(R^4)$COR, -$N(R^4)CO_2$(optionally substituted C_{1-6} aliphatic), -$N(R^4)N(R^4)_2$, -C=$NN(R^4)_2$, -C=N-OR, -$N(R^4)CON(R^4)_2$, -$N(R^4)SO_2N(R^4)_2$, -$N(R^4)SO_2$R, or -$OC(=O)N(R^4)_2$;

V is –O-, -S-, -SO-, -SO_2-, -$N(R^6)SO_2$-, -$SO_2N(R^6)$-, -$N(R^6)$-, -CO-, -CO_2-, -$N(R^6)$CO-, -$N(R^6)$C(O)O-, -$N(R^6)CON(R^6)$-, -$N(R^6)SO_2N(R^6)$-, -$N(R^6)N(R^6)$-, -$C(O)N(R^6)$-, -$OC(O)N(R^6)$-, -$C(R^6)_2O$-, -$C(R^6)_2S$-, -$C(R^6)_2SO$-, -$C(R^6)_2SO_2$-, -$C(R^6)_2SO_2N(R^6)$-, -$C(R^6)_2N(R^6)$-, -$C(R^6)_2N(R^6)C(O)$-, -$C(R^6)_2N(R^6)C(O)O$-, -$C(R^6)$=$NN(R^6)$-, -$C(R^6)$=N-O-, -$C(R^6)_2N(R^6)N(R^6)$-, -$C(R^6)_2N(R^6)SO_2N(R^6)$-, or -$C(R^6)_2N(R^6)CON(R^6)$-;

W is –$C(R^6)_2O$-, -$C(R^6)_2S$-, -$C(R^6)_2SO$-, -$C(R^6)_2SO_2$-, -$C(R^6)_2SO_2N(R^6)$-, -$C(R^6)_2N(R^6)$-, -CO-, -CO_2-, -$C(R^6)OC(O)$-, –$C(R^6)OC(O)N(R^6)$-, -$C(R^6)_2N(R^6)CO$-, -$C(R^6)_2N(R^6)C(O)O$-, -$C(R^6)$=$NN(R^6)$-, -$C(R^6)$=N-O-, -$C(R^6)_2N(R^6)N(R^6)$-, -$C(R^6)_2N(R^6)SO_2N(R^6)$-, -$C(R^6)_2N(R^6)CON(R^6)$-, or -$CON(R^6)$-;

each R^6 is independently selected from hydrogen or an optionally substituted C_{1-4} aliphatic group, or two R^6 groups on the same nitrogen atom are taken together with the nitrogen atom to form a 5-6 membered heterocyclyl or heteroaryl ring; and

each R^7 is independently selected from hydrogen or an optionally substituted C_{1-6} aliphatic group, or two R^7 on the same nitrogen are taken together with the nitrogen to form a 5-8 membered heterocyclyl or heteroaryl ~~ring~~ ring,

wherein optional substituents of C_{6-10} aryl and optional substituents of a heteroaryl ring having 5-10 ring atoms are selected from: a halogen, -R°, -OR°, -SR°, 1,2-methylene-dioxy, 1,2-ethylenedioxy, protected OH, phenyl (Ph), substituted Ph, -O(Ph), substituted –O(Ph), $-CH_2$(Ph), substituted $-CH_2$(Ph), $-CH_2CH_2$(Ph), substituted $-CH_2CH_2$(Ph), $-NO_2$, -CN, $-N(R°)_2$, -NR°C(O)R°, -NR°C(O)N(R°)$_2$, $-NR°CO_2R°$, -NR°NR°C(O)R°, -NR°NR°C(O)N(R°)$_2$, $-NR°NR°CO_2R°$, -C(O)C(O)R°, $-C(O)CH_2C(O)R°$, $-CO_2R°$, -C(O)R°, -C(O)N(R°)$_2$, -OC(O)N(R°)$_2$, $-S(O)_2R°$, $-SO_2N(R°)_2$, -S(O)R°, $-NR°SO_2N(R°)_2$, $-NR°SO_2R°$, -C(=S)N(R°)$_2$, -C(=NH)-N(R°)$_2$, $-(CH_2)_yNHC(O)R°$, or $-(CH_2)_yNHC(O)CH(V'-R°)(R°)$, wherein each R° is independently selected from hydrogen, a substituted or unsubstituted aliphatic group, an unsubstituted heteroaryl or heterocyclic ring, phenyl (Ph), substituted Ph, -O(Ph), substituted –O(Ph), $-CH_2$(Ph), and substituted $-CH_2$(Ph), wherein y' is 0-6, wherein V' is a linker group, and wherein substituents on the aliphatic group or the phenyl ring of R° are selected from amino, alkylamino, dialkylamino, aminocarbonyl, halogen, alkyl, alkylaminocarbonyl, dialkylaminocarbonyl, alkylaminocarbonyloxy, dialkylaminocarbonyloxy, alkoxy, nitro, cyano, carboxy, alkoxycarbonyl, alkylcarbonyl, hydroxy, haloalkoxy, and haloalkyl;

wherein optional substituents of C_{1-6} aliphatic are selected from: the optional substituents of the C_{6-10} aryl, the optional substituents of the heteroaryl ring, =O, =S, $=NNHR^*$, $=NN(R^*)_2$, =N-, $=NNHC(O)R^*$, $=NNHCO_2$(alkyl), $=NNHSO_2$(alkyl), and $=NR^*$, wherein each R^* is independently selected from hydrogen, an unsubstituted aliphatic group, and a substituted aliphatic group, and wherein substituents on the aliphatic group are selected from amino, alkylamino, dialkylamino, aminocarbonyl, halogen, alkyl, alkylaminocarbonyl,

dialkylaminocarbonyl, alkylaminocarbonyloxy, dialkylaminocarbonyloxy, alkoxy, nitro, cyano, carboxy, alkoxycarbonyl, alkylcarbonyl, hydroxy, haloalkoxy, and haloalkyl; and wherein optional substituents of a heterocyclyl ring having 5-10 ring atoms are selected from: $-R^+$, $-N(R^+)_2$, $-C(O)R^+$, $-CO_2R^+$, $-C(O)C(O)R^+$, $-C(O)CH_2C(O)R^+$, $-SO_2R^+$, $-SO_2N(R^+)_2$, $-C(=S)N(R^+)_2$, $-C(=NH)-N(R^+)_2$, and $-NR^+SO_2R^+$, wherein each R^+ is independently selected from hydrogen, an aliphatic group, a substituted aliphatic group, phenyl (Ph), substituted Ph, -O(Ph), substituted -O(Ph), CH_2(Ph), substituted CH_2(Ph), and an unsubstituted heteroaryl or heterocyclic ring, wherein substituents on the aliphatic group or the phenyl ring are selected from amino, alkylamino, dialkylamino, aminocarbonyl, halogen, alkyl, alkylaminocarbonyl, dialkylaminocarbonyl, alkylaminocarbonyloxy, dialkylaminocarbonyloxy, alkoxy, nitro, cyano, carboxy, alkoxycarbonyl, alkylcarbonyl, hydroxy, haloalkoxy, and haloalkyl.

2. (Currently amended) The compound according to claim 1, wherein said compound ~~as~~ has one or more features selected from the group consisting of:

(a) R^x is hydrogen, alkyl- or dialkylamino, acetamido, or a C_{1-4} aliphatic group;

(b) R^y is T-R^3 or L-Z-R^3, wherein T is a valence bond or a methylene and R^3 is –R, $-N(R^4)_2$, or -OR;

(c) R^1 is T-(Ring D), wherein T is a valence bond or a methylene unit;

(d) Ring D is a 5-7 membered monocyclic or an 8-10 membered bicyclic aryl or heteroaryl ring; and

(e) R^2 is –R or –T-W-R^6 and $R^{2'}$ is hydrogen, or R^2 and $R^{2'}$ are taken together to form ~~an optionally substituted~~ a benzo ring, wherein the benzo ring is optionally substituted with a group selected from -halo, $-N(R^4)_2$, $-C_{1-4}$ alkyl, $-C_{1-4}$ haloalkyl, $-NO_2$, $-O(C_{1-4}$ alkyl), $-CO_2(C_{1-4}$ alkyl), -CN, $-SO_2(C_{1-4}$ alkyl), $-SO_2NH_2$, $-OC(O)NH_2$, $-NH_2SO_2(C_{1-4}$ alkyl), $-NHC(O)(C_{1-4}$ alkyl), $-C(O)NH_2$, and $-CO(C_{1-4}$ alkyl), wherein the (C_{1-4} alkyl) is a straight, branched, or cyclic alkyl group.

3. (Original) The compound according to claim 2, wherein:

(a) R^x is hydrogen, alkyl- or dialkylamino, acetamido, or a C_{1-4} aliphatic group;

(b) R^y is T-R^3 or L-Z-R^3, wherein T is a valence bond or a methylene and R^3 is –R,

$-N(R^4)_2$, or -OR;

(c) R^1 is T-(Ring D), wherein T is a valence bond or a methylene unit;

(d) Ring D is a 5-7 membered monocyclic or an 8-10 membered bicyclic aryl or heteroaryl ring; and

(e) R^2 is –R or –T-W-R^6 and $R^{2'}$ is hydrogen, or R^2 and $R^{2'}$ are taken together to form an optionally substituted benzo ring.

4. (Original) The compound according to claim 2, wherein said compound has one or more features selected from the group consisting of:

(a) R^y is T-R^3 or L-Z-R^3 wherein T is a valence bond or a methylene and R^3 is selected from –R, -OR, or $-N(R^4)_2$, wherein R is selected from hydrogen, C_{1-6} aliphatic, or 5-6 membered heterocyclyl, phenyl, or 5-6 membered heteroaryl;

(b) R^1 is T-(Ring D), wherein T is a valence bond;

(c) Ring D is a 5-6 membered monocyclic or an 8-10 membered bicyclic aryl or heteroaryl ring;

(d) R^2 is –R and $R^{2'}$ is hydrogen, wherein R is selected from hydrogen, C_{1-6} aliphatic, phenyl, a 5-6 membered heteroaryl ring, or a 5-6 membered heterocyclic ring; and

(e) L is –O-, -S-, or $-N(R^4)-$.

5. (Original) The compound according to claim 4, wherein:

(a) R^y is T-R^3 or L-Z-R^3 wherein T is a valence bond or a methylene and R^3 is selected from –R, -OR, or $-N(R^4)_2$, wherein R is selected from hydrogen, C_{1-6} aliphatic, or 5-6 membered heterocyclyl, phenyl, or 5-6 membered heteroaryl;

(b) R^1 is T-(Ring D), wherein T is a valence bond;

(c) Ring D is a 5-6 membered monocyclic or an 8-10 membered bicyclic aryl or heteroaryl ring;

(d) R^2 is –R and $R^{2'}$ is hydrogen, wherein R is selected from hydrogen, C_{1-6} aliphatic, phenyl, a 5-6 membered heteroaryl ring, or a 5-6 membered heterocyclic ring; and

(e) L is –O-, -S-, or $-N(R^4)-$.

6. (Currently amended) The compound according to claim 4, wherein said compound has one or more features selected from the group consisting of:

(a) R^x is ~~hydrogen~~ hydrogen, methyl, ethyl, propyl, cyclopropyl, isopropyl, methylamino or acetimido;

(b) R^y is selected from 2-pyridyl, 4-pyridyl, pyrrolidinyl, piperidinyl, morpholinyl, piperazinyl, methyl, ethyl, cyclopropyl, isopropyl, t-butyl, alkoxyalkylamino, alkoxyalkyl, alkyl- or dialkylamino, alkyl- or dialkylaminoalkoxy, acetamido, optionally substituted phenyl, or methoxymethyl;

(c) R^1 is T-(Ring D), wherein T is a valence bond and Ring D is a 5-6 membered aryl or heteroaryl ring, wherein Ring D is optionally substituted with one to two groups selected from -halo, -CN, $-NO_2$, $-N(R^4)_2$, optionally substituted C_{1-6} aliphatic group, -OR, $-CO_2R$, $-CONH(R^4)$, $-N(R^4)COR$, $-N(R^4)SO_2R$, $-N(R^6)COCH_2CH_2N(R^4)_2$, or $-N(R^6)COCH_2CH_2CH_2N(R^4)_2$; and

(d) R^2 is hydrogen or a substituted or unsubstituted C_{1-6} aliphatic, and L is –O-, -S-, or –NH-.

7. (Currently amended) The compound according to claim 6, wherein:

(a) R^x is ~~hydrogen~~ hydrogen, methyl, ethyl, propyl, cyclopropyl, isopropyl, methylamino or acetimido;

(b) R^y is selected from 2-pyridyl, 4-pyridyl, pyrrolidinyl, piperidinyl, morpholinyl, piperazinyl, methyl, ethyl, cyclopropyl, isopropyl, t-butyl, alkoxyalkylamino, alkoxyalkyl, alkyl- or dialkylamino, alkyl- or dialkylaminoalkoxy, acetamido, optionally substituted phenyl, or methoxymethyl;

(c) R^1 is T-(Ring D), wherein T is a valence bond and Ring D is a 5-6 membered aryl or heteroaryl ring, wherein Ring D is optionally substituted with one to two groups selected from -halo, -CN, $-NO_2$, $-N(R^4)_2$, optionally substituted C_{1-6} aliphatic group, -OR, $-CO_2R$, $-CONH(R^4)$, $-N(R^4)COR$, $-N(R^4)SO_2R$, $-N(R^6)COCH_2CH_2N(R^4)_2$, or $-N(R^6)COCH_2CH_2CH_2N(R^4)_2$; and

(d) R^2 is hydrogen or a substituted or unsubstituted C_{1-6} aliphatic, and L is –O-, -S-, or –NH-.

8. (Cancelled)

9. (Currently amended) A composition comprising a compound according to any one of ~~claims 1-8~~ claims 1-7, and a pharmaceutically acceptable carrier.

10. (Original) The composition according to claim 9, further comprising an additional therapeutic agent.

11. (Cancelled)

12. (Currently amended) A method of inhibiting Aurora-2, GSK-3, or Src activity in a biological sample comprising the step of contacting said biological sample with a compound according to any one of ~~claims 1-8~~ claims 1-7.

13. (Original) A method of inhibiting Aurora-2 activity in a patient comprising the step of administering to said patient a composition according to claim 9.

14. (Original) A method of inhibiting Aurora-2 activity in a patient comprising the step of administering to said patient a composition according to claim 10.

15. (Currently amended) A method of treating an Aurora-2-mediated disease selected from colon, breast, stomach, or ovarian cancer, which method comprises administering to a patient in need of such a treatment a therapeutically effective amount of a composition according to claim 9.

16. (Cancelled)

17. (Currently amended) The method according to ~~claim 16~~ claim 15, wherein said method further comprises administering an additional therapeutic agent.

18. (Original) The method according to claim 17, wherein said additional therapeutic agent is a chemotherapeutic agent.

19. (Currently amended) A method of inhibiting GSK-3 activity in a patient comprising the step of administering to said patient a composition according to claim 9, wherein the patient is in need of treatment of a disease selected from diabetes, amyotrophic lateral sclerosis (AML), multiple sclerosis (MS), or cardiomycete hypertrophy.

20. (Currently amended) A method of inhibiting GSK-3 activity in a patient comprising the step of administering to said patient a composition according to claim 10, wherein the patient is in need of treatment of a disease selected from diabetes, amyotrophic lateral sclerosis (AML), multiple sclerosis (MS), or cardiomycete hypertrophy.

21. (Currently amended) A method of ~~method of~~ treating a GSK-3-mediated disease selected from diabetes, amyotrophic lateral sclerosis (AML), multiple sclerosis (MS), or cardiomycete hypertrophy, which method comprises administering to a patient in need of such a treatment a therapeutically effective amount of a composition according to claim 9.

22. (Currently amended) The method according to claim 20, wherein said patient is in need of treatment of a GSK-3-mediated disease ~~is~~ selected from diabetes, ~~Alzheimer's disease, Huntington's Disease, Parkinson's Disease, AIDS-associated dementia,~~ amyotrophic lateral sclerosis (AML), multiple sclerosis (MS), ~~schizophrenia,~~ or cardiomycete hypertrophy~~, reperfusion/ischemia, or baldness~~.

23. (Original) The method according to claim 21, wherein said GSK-3-mediated disease is diabetes.

24. (Original) A method of enhancing glycogen synthesis or lowering blood levels of glucose in a patient in need thereof, which method comprises administering to said patient a therapeutically effective amount of a composition according to claim 9.

25. (Original) A method of inhibiting the production of hyperphosphorylated Tau protein in a patient, which method comprises administering to a patient in need thereof a therapeutically effective amount of a composition according to claim 9.

26. (Original) A method of inhibiting the phosphorylation of β-catenin, which method comprises administering to a patient in need thereof a therapeutically effective amount of a composition according to claim 9.

27. (Cancelled)

28. (Cancelled)